

3.7 Hazardous Materials

This section describes the impacts associated with Hazardous Materials that could result from the Plan, including hazardous materials transportation and potential releases to the environment, and the associated risks within the SCAG region. This section identifies the potential impacts of the RTP and includes mitigation measures for the impacts, and evaluates the residual impacts.

Environmental Setting

This section discusses the existing conditions related to Hazardous Materials in the SCAG region, which includes an overview of the presence of hazardous materials and the potential for impacts that would result from the proposed projects.

Definitions

The universe of hazardous materials is large and diverse. The term “hazardous material” can have varying definitions for different regulatory programs. For the purposes of this PEIR, the term “hazardous materials” refers to both hazardous materials and hazardous wastes. The California Health & Safety Code §25501(k) defines hazardous material as follows:¹

“Hazardous material means any material that because of its quantity, concentrations, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. Hazardous materials include but are not limited to hazardous substances, hazardous waste, and any material which a handler or the administering agency has a reasonable basis for believing would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.”

A waste is hazardous if it exhibits one or more of the characteristics defined below:²

- Toxic Substances: Toxic substances may cause short-term or long-lasting health effects, ranging from temporary effects to permanent disability, or even death. For example, such substances can cause disorientation, acute allergic reactions, asphyxiation, skin irritation, or other adverse health effects if human exposure exceeds certain levels. (The level depends on the substances involved and is chemical-specific.) Carcinogens (substances that can cause cancer) are a special class of toxic substances. Examples of toxic substances include benzene (a component of gasoline and a suspected carcinogen) and methylene chloride (a common laboratory solvent and a suspected carcinogen).
- Ignitable Substances: Ignitable substances are hazardous because of their ability to burn. Gasoline, hexane, and natural gas are examples of ignitable substances.

¹ Title 22 C.C.R. § 66261.3, “Hazardous Waste”

² Title 22 C.C.R. §§66261.20-66261.24, “Hazardous Waste”

- Corrosive Materials: Corrosive materials can cause severe burns. Corrosives include strong acids and bases such as sodium hydroxide (lye) or sulfuric acid (battery acid).
- Reactive Materials: Reactive materials may cause explosions or generate toxic gases. Explosives, pure sodium or potassium metals (which react violently with water), and cyanides are examples of reactive materials.

Hazardous Materials in the SCAG Region

Soil and groundwater can become contaminated by hazardous material releases in a variety of ways, including permitted or illicit use and accidental or intentional disposal or spillage. Before the 1980's, most land disposal of chemicals was unregulated, with the result that numerous industrial properties and public landfills became dumping grounds for unwanted chemicals. The largest and most contaminated of these sites, in general, became federal Superfund sites in the early 1980's, so named for their eligibility to receive cleanup money from a federal fund established for that purpose under CERCLA. Sites are added to the National Priorities List following a hazard ranking system. The EPA maintains this list of federal Superfund sites, as well as a more extensive list of all sites with potential to be listed known as CERCLIS (Comprehensive Environmental Response, Compensation, and Liability Information System).

Numerous smaller properties also have been designated as contaminated sites. Often these are gas station sites, where leaking underground storage tanks were upgraded under a federal requirement in the late 1980's. Another category of sites, which may have some overlap with the types already mentioned, is brownfields – previously used, often abandoned sites that because of actual or suspected contamination, are undeveloped or underused. Both the U.S. EPA and DTSC maintain lists of known brownfield sites. These sites are often difficult to inventory due to their owners' reluctance to publicly label their property as potentially contaminated. In California, numerous regulatory barriers have blocked effective reuse of brownfields sites, including uncertainty as to cleanup levels and ultimate cleanup cost. State legislation (SB 32, Escutia) adopted in 2001 establishes a locally-based program to help speed the cleanup and reuse of brownfields sites.

Contaminated Sites

DTSC maintained a database, known as "CalSites," which contained information on properties in California where hazardous substances were released, or where the potential for a release existed. On January 31, 2006, DTSC launched its new Brownfields site database, EnviroStor, which provides similar information to CalSites, with information, including identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites. **Table 3.7-1** breaks down the total number of sites listed in DTSC databases for the six counties that comprise the SCAG region.

**TABLE 3.7-1
NUMBER OF CLEANUP SITES BY COUNTY**

County	Federal Superfund (NPL) ³	School Cleanup ⁴	State Response ⁵	Voluntary Cleanup ⁶	Total
Imperial	1	0	7	5	13
Los Angeles	14	100	139	179	432
Orange	3	13	17	17	50
Riverside	4	7	21	12	44
San Bernardino	4	9	21	18	52
Ventura	2	3	12	14	31

SOURCE: Department of Toxic Substances Control – EnviroStor website. 2007. Retrieved October 2007
<http://www.envirostor.dtsc.ca.gov/public/default.asp>

Several California environmental agencies maintain lists of properties that are contaminated or are otherwise associated with the use of hazardous materials, including the following:

- Department of Toxic Substances Control:
 - HazNet list – data on hazardous waste shipments from Hazardous Waste Information System
 - Hazardous Waste and Substances Site List (“Cortese” list) – hazardous materials release locations
- California Integrated Waste Management Board (part of Cal/EPA)
 - Solid Waste Information System – data on open, closed and inactive solid waste disposal facilities and transfer stations
- State Water Resources Control Board (SWRCB; part of Cal/EPA)
 - Leaking Underground Storage Tank list – data for specific parts of the state is also maintained by the Regional Water Quality Control Boards (RWQCB)
- Cal/EPA
 - Annual Work Plan – indicates which sites are targeted for cleanup using state funds.

Underground Storage Tanks⁷

An underground storage tank system (UST) is a tank and any underground piping connected to the tank that has at least 10 percent of its combined volume underground. The federal UST regulations apply only to underground tanks and piping storing either petroleum or certain

³ Federal Superfund (NPL): Identifies where the U.S. EPA proposed, listed or delisted a site on the National Priorities List (NPL).

⁴ School Cleanup: Identifies proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination.

⁵ State Response: Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high-potential risk.

⁶ Voluntary Cleanup: Identifies with either confirmed or unconfirmed releases, and the project proponents have requested that DTSC oversee evaluation, investigation and/or clean up activities and have agreed to provide coverage for DTSC's costs.

⁷ United States Environmental Protection Agency website. Last updated October 23, 2007. *Overview of Federal Underground Storage Tank Program*. Retrieved October 2007 from <http://www.epa.gov/oust/overview.htm>.

hazardous substances. When the UST program began, there were approximately 2.1 million regulated tanks in the U.S. Today, there are far fewer since many substandard UST systems have been closed. Nearly all USTs at these sites contain petroleum. These sites include marketers who sell gasoline to the public (such as service stations and convenience stores) and non-marketers who use tanks solely for their own needs (such as fleet service operators and local governments). EPA estimates about 25,000 tanks hold hazardous substances covered by the UST regulations.

The greatest potential hazard from a leaking UST is that the petroleum or other hazardous substance can seep into the soil and contaminate groundwater, the source of drinking water for nearly half of all Americans (although not such a high percentage in the SCAG region). A leaking UST can present other health and environmental risks, including the potential for fire and explosion. Until the mid-1980s, most USTs were made of bare steel, which is likely to corrode over time and allow UST contents to leak into the environment. Faulty installation or inadequate operating and maintenance procedures also can cause USTs to release their contents into the environment. **Table 3.7-2** shows the number of USTs and Leaking Underground Fuel Tanks (LUFTS) within the SCAG region.

**TABLE 3.7-2
UNDERGROUND STORAGE TANKS**

County	UST
Imperial	87
Los Angeles	4938
Orange	2964
Riverside	825
San Bernardino	988
Ventura	382

SOURCE: California Environmental Protection Agency, State Water Resources Control Board website. Retrieved October 2007 from <http://geotracker.waterboards.ca.gov/>.

Hazardous Materials Transport

There are several ways in which the transportation-related use of hazardous materials poses a risk to residents of the SCAG region. Actual transport of hazardous materials via truck, rail, and other modes involves a degree of risk of accident and release. The use of hazardous materials and the generation of hazardous waste in the construction and maintenance of the transportation system are other avenues for risk or exposure. Finally, the past disposal of hazardous materials in a manner that creates residual contamination of soil or water can be a source of risk when such sites are disturbed in the course of future transportation projects or associated development. Each of these avenues is discussed below.

Hazardous materials move through the SCAG region by a variety of modes: truck, rail, air, ship, and pipeline. According to the Office of Hazardous Materials Safety (OHMS) in the USDOT, hazardous materials shipments can be regarded as equivalent to deliveries, but any given shipment may involve one or more movements, or trip segments, that may occur by different

modes. For instance, a shipment might involve initial pickup by truck (one movement), a transfer to rail (a second movement), and a final delivery by truck again (for a total of three movements). Each movement of hazardous materials implies a degree of risk, depending on the material being moved, the mode of transport, and numerous other factors.

According to the Commodity Flow Survey (CFS) data, there were 2.2 billion tons of hazardous materials shipments in the U.S. in 2002. **Table 3.7-3** indicates that trucks move more than one-half of all hazardous materials shipped from a location in the United States. By contrast, rail accounts for only five percent of shipments.⁸

**TABLE 3.7-3
HAZARDOUS MATERIAL SHIPMENT RATES IN THE UNITED STATES**

Mode	Total Commercial Freight Activity (million tons)	Hazardous Materials Shipped (thousand tons)	Percent of Hazardous Materials Shipped
Truck	11,712	1,159.5	53%
Pipeline	3,529	661.4	30%
Rail	1,979	109.4	5%
Water	1,668	228.2	10%

SOURCE:

United States Department of Transportation, Bureau of Transportation Statistics. 2002. *Commodity Flow Survey*. Retrieved October 2007 from http://www.bts.gov/publications/freight_in_america/html/table_06.html.

United States Department of Transportation, Bureau of Transportation Statistics. 2002. *Hazardous Materials Shipments by Mode*. Retrieved October 2007 from http://www.bts.gov/publications/freight_in_america/html/table_06.html.

Aside from rail, pipeline, and water shipments, hazardous materials transported through the SCAG region make use of many of the same freeways, arterials, and local streets as other traffic in the region. This creates a risk of accidents and associated release of hazardous materials for other drivers and for people along these routes, as does the use of rail modes for hazardous materials shipments. According to the United States Department of Transportation's Hazardous Materials Information System, in 2006, highways accounted with the largest share of hazardous materials incidents, with a total of 17,666 incidents or 83 percent. Air accounted 11 percent for the next largest portion, followed by rail and water. **Figure 3.7-1** below breaks down transportation related hazardous materials incidents by mode.⁹

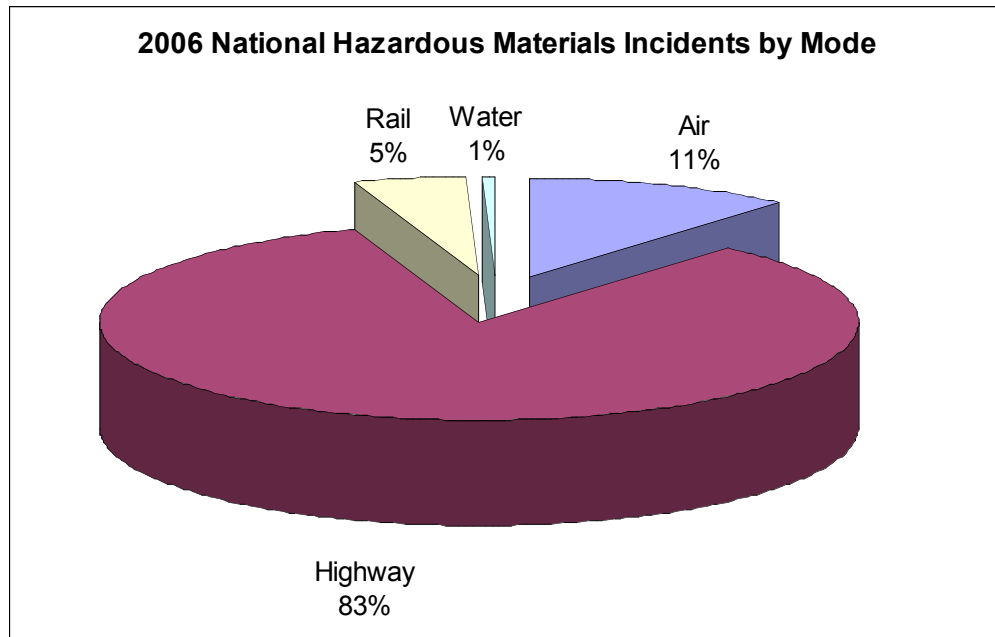
Regulatory Setting

Numerous laws and regulations at all levels of government serve to minimize the potential impacts associated with the use and handling of hazardous materials. The most relevant federal, state, and local hazardous materials laws and regulations are summarized in this section.

⁸ U.S. Department of Transportation, Bureau of Transportation Statistics. Commodity Flow Survey (2002.) Available at: http://www.bts.gov/publications/freight_in_america/html/table_06.html

⁹ Office of Hazardous Materials Safety. Summary of Hazardous Materials Transportation Incidents (2002-2003). Available at: http://hazmat.dot.gov/pubs/inc/data/2003/sum/2003ex6-1_6-2.pdf

**FIGURE 3.7-1
2006 NATIONAL HAZARDOUS MATERIALS INCIDENTS BY MODE**



SOURCE: United States Department of Transportation, Hazardous Materials Information System. 2006. *2006 Hazmat Summary by Mode of Transportation*. Retrieved October 2007 from http://hazmat.dot.gov/pubs/inc/data/2006/2006cause_mode.pdf.

Federal Agencies and Regulations

United States Environmental Protection Agency (EPA)

The EPA is the primary federal agency charged with protecting human health and with safeguarding the natural environment: air, water, and land. EPA works to develop and enforce regulations that implement environmental laws enacted by Congress. EPA is responsible for researching and setting national standards for a variety of environmental programs, and delegates to states and tribes the responsibility for issuing permits and for monitoring and enforcing compliance. Since 1970, the EPA has enacted numerous environmental laws including the Resource Conservation and Recovery Act (RCRA); the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA); and the Toxic Substances Control Act (TSCA).

Resource Conservation and Recovery Act (RCRA)

The 1976 Resource Conservation and Recovery Act (RCRA) is the principle federal law that regulates generation, management, and transportation of waste. RCRA gave the EPA authority to develop strict requirements for all aspects of hazardous waste management including the treatment, storage, and disposal of hazardous waste. In addition, RCRA requires the inspection,

enforcement, and formal corrective action for facilities that do not live up to the terms of their permits and other requirements. To achieve these goals, RCRA established three programs:¹⁰

- Subtitle D (Solid Waste Program): Encourages states to develop comprehensive plans to manage non-hazardous industrial solid waste and municipal solid waste, sets criteria for municipal solid waste landfills and other solid waste disposal facilities, and prohibits the open dumping of solid waste.
- Subtitle C (Hazardous Waste Program): Establishes a system for controlling hazardous waste from the time it is generated until its ultimate disposal ("cradle to grave").
- Subtitle I (UST Program): The underground storage tank (UST) program regulates the design and operation of underground storage tanks containing hazardous substances and petroleum products.

A cornerstone of RCRA is management of waste "from cradle to grave," in other words, from generation, to transportation, treatment, storage, and ultimately, disposal. To assure this, the RCRA utilizes a manifest system, which is a data sheet that identifies each waste shipment. Identification from generators and transporters, and permits for Toxic Substance Disposal Facilities (TSDFs) is required, enabling waste shipments, such as special hazardous waste, to be tracked. The manifest will accompany the waste from the generating facility to the final disposal site, thus, allowing for "cradle to grave" tracking of the waste.

Hazardous Materials Transportation Act

The U.S. Department of Transportation (DOT) regulates hazardous materials shipping at the federal level (49 CFR Parts 171-180). Congress passed the Hazardous Materials Transportation Act in 1975 to give authority to the Secretary of Transportation "to provide adequate protection against the risks to life and property inherent in transporting hazardous materials in commerce."¹¹

Research and Special Programs Administration (RSPA)

The RSPA of DOT issues the hazardous materials regulations. The regulations cover definition and classification of hazardous materials, communication of hazards to workers and the public, packaging and labeling requirements, operational rules for shippers, and training. They apply to interstate, intrastate, and foreign commerce by air, rail, ships, and motor vehicles, and also cover hazardous waste shipments. The Federal Highway Administration (FHWA) is responsible for highway routing of hazardous materials and highway safety permits. The U.S. Coast Guard regulates bulk transport by vessel.

The hazardous material regulations include emergency response provisions, including incident reporting requirements. Reports of major incidents go to the National Response Center, which in

¹⁰ United States Environmental Protection Agency. 40 CFR Parts 238-282. Retrieved October 2007 from <http://www.epa.gov/rcraonline/>.

¹¹ United States Department of Transportation. 49 CFR Parts 171-180. Retrieved October 2007 from <http://hazmat.dot.gov/regs/rules.htm>.

turn is linked with CHEMTREC, a service of the chemical manufacturing industry that provides details on most chemicals shipped in the U.S.¹²

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

CERCLA (generally referred to as Superfund) was enacted by Congress on December 11, 1980. CERCLA established a trust fund to provide for toxic waste cleanup when no responsible party could be identified. Additionally, this Act gave EPA power to seek out those parties responsible for any release and assure their cooperation in the cleanup. The law authorizes two kinds of response actions:¹³

- Short-term Removals: Actions are taken to address releases or threatened releases requiring prompt response.
- Long-term Remedial Response: Actions are taken to permanently and significantly reduce the dangers associated with releases or threats of releases of hazardous substances that are serious, but not immediately life threatening. These actions can be conducted only at sites listed on EPA's National Priorities List (NPL).

CERCLA also enabled the revision of the National Contingency Plan (NCP). The NCP provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants. The NCP also established the NPL sites, which is the list of hazardous waste sites eligible for long-term remedial action financed under the federal Superfund program. CERCLA was amended by the Superfund Amendments and Reauthorization Act (SARA) on October 17, 1986.

Superfund Amendments and Reauthorization Act (SARA)

The Superfund Amendments and Reauthorization Act (SARA) of 1986 reauthorized CERCLA to continue cleanup activities around the country. Several site-specific amendments, definitions clarifications, and technical requirements were added to the legislation, including additional enforcement authorities.

Emergency and Community Right to Know Act (EPCRA)

Also known as Title III of SARA, EPCRA was enacted by Congress as the national legislation on community safety. This law was designated to help local communities protect public health, safety, and the environment from chemical hazards. EPCRA was passed in response to concerns regarding the environmental and safety hazards posed by the storage and handling of toxic chemicals. EPCRA establishes requirements for federal, state and local governments, tribes and industry regarding emergency planning and "Community Right-to-Know" reporting on hazardous and toxic chemicals. The Community Right-to-Know provisions help increase the public's

¹² CHEMTREC website. 2007. Retrieved October 2007 from <http://www.chemtrec.org/Chemtrec/>.

¹³ United States Environmental Protection Agency website. Last updated July 17, 2007. *CERCLA Overview*. Retrieved October 2007 from <http://www.epa.gov/superfund/policy/cercla.htm>.

knowledge and access to information on chemicals at individual facilities, their uses, and releases into the environment. States and communities, working with facilities, can use the information to improve chemical safety and protect public health and the environment.

To implement EPCRA, Congress required each state to appoint a State Emergency Response Commission (SERC). The SERC's were required to divide their states into Emergency Planning Districts and to name a Local Emergency Planning Committee for each district.

Toxic Substances Control Act (TSCA)

The Toxic Substances Control Act (TSCA) of 1976 was enacted by Congress to give EPA the ability to track the 75,000 industrial chemicals currently produced or imported into the United States. EPA repeatedly screens these chemicals and can require reporting or testing of those that may pose an environmental or human-health hazard. EPA can ban the manufacture and import of those chemicals that pose an unreasonable risk.

State Agencies and Regulations

The identification and cleanup, or remediation, of environmentally contaminated properties is regulated by several agencies in California, depending on the size and nature of the site, its past uses, and whether soil or groundwater are impacted.

California Environmental Protection Agency (Cal/EPA)

The Cal/EPA was created in 1991 by Governor's Executive Order. The six agencies (Air Resources Board, Department of Pesticide Regulation, Department of Toxic Substances Control, Integrated Waste Management Board, Office of Environmental Health Hazard Assessment and the State Water Resources Control Board) were placed within the Cal/EPA "umbrella" to create a cabinet level voice for the protection of human health and the environment and to assure the coordinated deployment of state resources.

California Department of Toxic Substances Control (DTSC)

In California, the DTSC regulates hazardous waste in California primarily under the authority of RCRA and the California Health and Safety Code. The DTSC regulates hazardous waste, cleans-up existing contamination and researches ways to reduce the hazardous waste produced in California. In addition, the DTSC develops legislation, coordinates with lawmakers and responds to constituent complaints. The regulations spell out what those who handle hazardous waste must do to comply with the laws.

Under RCRA, DTSC cleans-up or oversees approximately 220 hazardous substance release sites at any given time and completes an average of 125 cleanups each year. Ensuring compliance through inspection and enforcement is an important part of effectively regulating hazardous waste. DTSC conducts roughly 200 inspections a year. DTSC's Criminal Investigations Branch has the only law enforcement officers in the Cal/EPA. These peace officers, with the powers of arrest, and search and seizure, investigate alleged criminal violations

of the Hazardous Waste Control Law. They work closely with district attorneys' offices, the federal Environmental Protection Agency, the Federal Bureau of Investigation, and law enforcement personnel in other states.

The California Hazardous Materials Release Response Plans and Inventory Law of 1985 (Business Plan Act) requires that any business that handles hazardous materials prepare a business plan, which must include the following:¹⁴

- Details, including floor plans, of the facility and business conducted at the site.
- An inventory of hazardous materials that are handled or stored on site.
- An emergency response plan.
- A safety and emergency response training program for new employees with annual refresher courses.

Hazardous Transportation Materials Regulations

Transportation and use of hazardous materials are the concern of several state and local agencies, including Caltrans, which tracks hazardous materials spills at the District level; the California Highway Patrol (CHP), whose Commercial Vehicle Section includes a Motor Carrier/Licensing & HazMat Regulations Unit; and the state Office of Emergency Services, which responds to hazardous materials emergencies in cooperation with local responders. In addition, state law has established Certified Uniform Program Agencies (CUPA), often housed within local fire departments, to oversee local hazardous materials storage, usage, and disposal.

California Unified Program Agency (CUPA)

In 1993, the CUPA was created by SB 1082 in order to simplify the process of regulating and managing hazardous materials and hazardous wastes. Rather than having numerous state and local agencies regulating a single business, SB 1082 consolidated the enforcement of several different environmental regulations under the administration of one local agency called a CUPA. The CUPA can be a county, city or JPA (Joint Powers Authority).¹⁵

Under SB 1082, the state required all counties to apply for status as a CUPA. In order to address the needs of cities, some of which already had strong environmental inspection programs in place, the law allowed cities to opt in to the CUPA program as long as they could show that they had the minimum expertise and training to implement the six program elements. Each CUPA, whether housed in a Fire Department, Environmental Health Department, or some other department within the city or county would consolidate six existing environmental regulation programs with the goal of reducing: 1) the number of regular inspections to each site by combining different inspections into a single visit, and 2) the amount each regulated business

¹⁴ Governor's Office of Emergency Services. June 2005. *Hazardous Materials Business Plan*. Retrieved October 2007
[http://www.oes.ca.gov/Operational/OESHome.nsf/PDF/HazMat%20FAQ/\\$file/FAQBusPlan6-22-05.pdf](http://www.oes.ca.gov/Operational/OESHome.nsf/PDF/HazMat%20FAQ/$file/FAQBusPlan6-22-05.pdf)

¹⁵ Dang, Duy, Celeste Drake, and P. Pamela Meesri. March 27, 2001. *Certified Unified Program Agencies: On the Road to Improving California's Environmental Health*. Retrieved October 2007 from
<http://www.spa.ucla.edu/ps/research/CUPA.pdf>

paid in inspection fees. The six programs include the following: 1) Hazardous Materials Business Plan/Emergency Response Plan; 2) Hazardous Waste/Tiered Permitting; 3) Underground Storage Tanks; 4) Aboveground Storage Tanks (SPCC only); 5) California Accidental Release Program; and 6) the Uniform Fire Code Hazardous Materials Management Plan. The CUPA designates a Participating Agency (PA) to administer one or more Unified Programs within their jurisdiction on behalf of the CUPA. As of January 2007, there are a total of 14 CUPAs and 26 PAs in the SCAG region.¹⁶

Methodology

This section summarizes the methodology used to evaluate the expected impacts from hazardous materials associated with implementation of the proposed Plan. Since shipments are an indicator of risk, as stated by the OHMS, the impact of hazardous materials transportation through the SCAG region was assessed by examining the 2008 RTP's effect on hazardous materials shipments.

GIS was used to analyze where major freeway, rail, and transit projects in the 2008 RTP come within a one-quarter mile radius of a school. A half-mile buffer (one quarter mile on either side) was drawn around the freeway, rail, and transit projects in the 2008 RTP to compute the number of schools potentially affected by the projects in the 2008 RTP.

Comparison with the No Project

The analysis of hazardous materials also includes a comparison between the expected future conditions with the proposed Plan and the expected future conditions if no Plan were adopted. This evaluation is not included in the determination of the significance of impacts (which is based on comparison to existing conditions); however, it provides a meaningful perspective on the expected effects of the 2008 RTP.

Determination of Significance

The methodology for determining significance applies the significance criteria below to compare the existing conditions to the expected future conditions with the Plan.

Significance Criteria

Criteria for determining significance of impacts were developed from the *CEQA Guidelines* Appendix G. The proposed Plan would have a significant impact if implementation would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;

¹⁶ Certified Unified Program Agency. January 26, 2007. *Local Agency Contact List*. Retrieved October 2007 from <http://www.calcupa.net/index.html>.

- Emit hazardous materials within one-quarter mile of a school;
- Disturb contaminated property during the construction of new transportation or expansion of existing transportation facilities; and
- Cause a cumulatively considerable hazard to the public or the environment outside the SCAG region.

Impacts and Mitigation Measures

Implementation of the 2008 RTP would affect the transportation and handling of hazardous materials in the SCAG region. Expected significant impacts include risk of accidental releases due to an increase in the transportation of hazardous materials and the potential for such releases to reach schools within one-quarter mile radius of transportation facilities affected by the 2008 RTP.

All mitigation measures should be included in project-level analysis as appropriate. The project proponent or local jurisdiction shall be responsible for ensuring adherence to the mitigation measures prior to construction. For regionally significant projects SCAG shall be provided with documentation of compliance with mitigation measures through its Intergovernmental Review Process in which all regionally significant projects, plans, and programs must be consistent with regional plans and policies.

Impact 3.7-1: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

The proposed 2008 RTP includes projects that may involve the transportation, use, and/or disposal of hazardous materials, particularly the proposed freight rail improvements and other goods movement capacity enhancements, which may result in transport of hazardous goods as well as the use of equipment that contains or uses routine hazardous materials (e.g., diesel-fueled equipment), or the transportation of excavated soil and/or groundwater containing contaminants from areas that are identified as being contaminated.

It is anticipated that these activities would result in a less than significant hazard to the public and/or the environment, because these activities are subject to numerous laws, regulations, and health and safety standards set forth by federal, state, and local authorities that regulate the proper handling of such materials and their containers. These include the EPA, the Occupational Safety and Health Administration (OSHA), USDOT, and the Food and Drug Administration (FDA) for the federal government. State agencies, including the Health and Welfare Agency (HWA), under which is the DTSC, have parallel, and in some cases more stringent, rules governing the use of hazardous materials.

USDOT requires the use of hazardous waste manifests which are used to ensure that hazardous wastes are strictly monitored and tracked from the point of generation through ultimate disposal. To operate in California, all hazardous waste transporters must be registered with the DTSC. Unless specifically exempted, hazardous waste transporters must comply with the California

Highway Patrol Regulations; the California State Fire Marshal Regulations; and the United States Department of Transportation Regulations.

In addition, the construction and maintenance of transportation facilities included in the 2008 RTP would involve the use of hazardous materials such as solvents, paints and other architectural coatings. The use and storage of these materials will be regulated by local fire departments, CUPAs, and the California Division of Occupational Safety and Health. Materials left over from construction projects can likely be re-used on other projects. For materials that cannot be or are not reused, disposal would be regulated by the DTSC under state and federal hazardous waste regulations.

Due to the strict and numerous regulations governing the use of hazardous materials, impacts are expected to be **less than significant**. The following mitigation measure is included to ensure compliance with applicable regulations.

Mitigation Measures

MM-HM.1: The project implementation agency shall comply with all applicable laws, regulations, and health and safety standards set forth by federal, state, and local authorities that regulate the proper handling of such materials and their containers to the routine transport, use, and disposal of hazardous materials does not create a significant hazard to the public or the environment.

Significance after Mitigation

The mitigation measure would assure appropriate steps taken to minimize any hazard to the public or the environment. The impact after mitigation would be **less than significant**.

Impact 3.7-2: The implementation of the 2008 RTP could create a hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment during transportation.

Implementation of the 2008 RTP would facilitate the movement of goods, including hazardous materials, through the region. For example, by 2035 the RTP includes over 71,866 new regional lane miles and predicts a substantial increase in vehicle miles traveled (VMT) by trucks, a common mode of hazardous materials transport. In addition, freight rail improvements and other goods movement capacity enhancements are included in the Plan. Transportation of goods, in general, and hazardous materials in particular, can thus be expected to increase substantially with implementation of the 2008 RTP. SCAG's Travel Demand Model suggests that daily regional truck vehicle miles traveled (VMT) will increase from 28.1 million in 2003 to 51.3 by 2035, which is an 82.7 percent increase.

The past several RTP updates have included the concept of user supported (toll) dedicated truck lane facilities. These facilities would be aligned to connect freight-intensive locations such as the

ports, warehousing/distribution center locations and manufacturing locations. They would have fewer ingress/egress locations than typical urban interstates to smooth the flow of goods in the region. Additional improvements in the 2008 RTP would generally improve transportation safety, thus reducing the likelihood of hazardous material transportation incidents. Specific elements in the Plan, such as dedicated truck facilities, could be expected to reduce the level of risk posed by hazardous materials transport by separating trucks from other traffic types. This separation should reduce the likelihood of accidents due to the different acceleration rates and driving patterns of heavy trucks compared with other vehicles. (However, the provision of dedicated capacity enhancement facilities might also provide an incentive for even greater goods shipment through the SCAG region, thus potentially offsetting this benefit.) Likewise, the imposition of tolls or fees to help finance dedicated capacity enhancement facilities may induce the transfer of some freight, including hazardous materials, to rail rather than truck. Federal statistics, however, show that hazardous materials incidents are much less common by rail than on highways.¹⁷

Given the large volume of materials currently and projected to be transported through the region, some portion of which is and will continue to be, hazardous, the risk of upset as a result of accident or human interference is **significant**.

Mitigation Measures

MM-HM.2: SCAG shall encourage the USDOT, the Office of Emergency Services, and Caltrans to continue to conduct driver safety training programs and encourage the private sector to continue conducting driver safety training.

MM-HM.3: SCAG shall encourage the USDOT and the CHP to continue to enforce speed limits and existing regulations governing goods movement and hazardous materials transportation.

Significance after Mitigation

The improvements to the regional transportation system by 2035 would facilitate a substantial increase in the transportation of all goods, including hazardous materials. However, even with the above mitigation, this impact would remain **significant**.

Impact 3.7-3: The implementation of the 2008 RTP could create a hazard to the public or the environment by emitting hazardous materials within one-quarter mile of a school.

Using SCAG's GIS, the 2008 RTP network of projects was overlaid on the region to determine where impacts could occur to schools. The results of the GIS analysis show that under the Plan, approximately 378 schools are within a half-mile buffer of the 2008 RTP projects and could be impacted. Hazardous materials carried on these roadways could affect these schools if there were to be a release or incident during transportation.

¹⁷ Office of Hazardous Materials Safety. 2006. *2006 Hazmat Summary by Mode of Transportation*. Retrieved October 2007 from http://hazmat.dot.gov/pubs/inc/data/2006/2006cause_mode.pdf.

This impact is considered to be **significant**.

Mitigation Measures

Mitigation measures identified above to reduce risk of upset would also apply to this impact.

MM-HM.4: Prior to approval of any RTP project, the Lead Agency for each individual project shall consider existing and known planned school locations when determining the alignment of new transportation projects and modifications to existing transportation facilities.

Significance after Mitigation

The improvements to the regional transportation system by 2035 would facilitate a substantial increase in the transportation of all goods, including hazardous materials. Even with the above mitigation, this impact would remain **significant**.

Impact 3.7-4: The implementation of the 2008 RTP could create a hazard to the public or the environment through the disturbance of contaminated property during the construction of new transportation or expansion of existing transportation facilities.

Construction of the projects in the 2008 RTP could involve construction through or next to sites that are contaminated due to past use or disposal of hazardous materials. In the two decades since federal and state laws were adopted providing for remediation of these sites, it is likely that the majority of contaminated sites have been identified or are easily identifiable from existing information. Given the intensity of past use of land in the region there are substantial numbers of contaminated sites, and it is likely that most RTP projects will have to address this issue.

Because of the large number of contaminated sites and the risk associated with encountering and cleaning up these sites, this impact is considered to be **significant**.

Mitigation Measures

MM-HM.5: Prior to approval of any RTP project, the project implementation agency shall consult all known databases of contaminated sites and undertake a standard Phase 1 Environmental Site Assessment in the process of planning, environmental clearance, and construction for projects included in the 2008 RTP. If contamination is found the implementing agency shall coordinate clean up and/or maintenance activities.

MM-HM.6: Where contaminated sites are identified, the project implementation agency shall develop appropriate mitigation measures to assure that worker and public exposure is minimized to an acceptable level and to prevent any further environmental contamination as a result of construction.

Significance after Mitigation

The mitigation measure would assure that contaminated properties are identified and appropriate steps taken to minimize human exposure and prevent any further environmental contamination.

The impact after mitigation would be **less than significant**.

Cumulative Impact 3.7-5: The 2008 RTP would contribute a cumulatively significant amount of hazardous material transportation impacts to areas outside of the SCAG region.

The 2035 transportation model includes the population, households, and employment projected for 2035, and therefore the largest demand on the transportation system expected during the lifetime of the 2008 RTP. The forecasted urban development and growth that would be accommodated by the transportation investments in the 2008 RTP and the increased mobility provided by the 2008 RTP would contribute to the significant impacts described above. The regional growth, and thus, cumulative impacts are captured in the analysis presented above.

As the population increases through 2035, the number of trips in the SCAG region that originate, end or pass through Santa Barbara, San Diego and Kern counties as well as other counties and states would increase, including trips involving the transportation of hazardous materials. The 2008 RTP would contribute to significant hazardous material transportation impacts in these other counties.

This impact is considered to be **significant**.

Mitigation Measures

Mitigation Measures **MM-HM. 1 through MM-HM.6** as implemented by local planners and private developers would address this impact.

Significance after Mitigation

Even with the above mitigation, the regional contribution to potential impacts outside the region would remain **significant**.

Cumulative Impact 3.7-6: Implementation of the investments and policies in the 2008 RTP could create a potential hazard to the public or the environment by the disturbance of contaminated sites as a result of population and housing growth in the region.

The 2008 RTP's influence on mobility and its land use-transportation measures would influence population distribution, potentially contributing to a cumulatively considerable impact related to disturbance of contaminated sites by new urban development. With additional pressure for infill development, reuse of "brownfields" properties may become more common as the region grows.

This impact is considered to be **significant**.

Mitigation Measures

Mitigation Measures **MM-HM. 1 through MM-HM.6** as implemented by local planners and private developers would address this impact.

Significance after Mitigation

With appropriate review and clean up or maintenance, this impact would not be cumulatively considerable and therefore would be **less than significant**.

Comparison with the No Project

Implementation of the 2008 RTP would result in the same regional total population as the No Project alternative. Population for both No Project and the Plan is projected to be approximately 24 million. However, no regional transportation investments would be made beyond the existing programmed projects under the No Project Alternative. The population distribution is assumed to follow past trends, uninfluenced by additional transportation investments.

Direct Impacts

The No Project Alternative would result in the construction of approximately 65,941 new lane miles compared with over 71,866 new lane miles in the Plan Alternative. As a result, new transportation projects in the No Project Alternative would be within a quarter-mile radius of 348 schools, which would be 30 less schools under the Plan Alternative. Because there would be fewer projects built, the No Project Alternative could result in a smaller increase in the movement of hazardous materials around the SCAG region and therefore in the associated risks. However, without the transportation system improvements incorporated in the 2008 RTP, VMT and VHT would increase more by 2035 for the No Project Alternative than for the Plan Alternative. Thus, there would be more opportunities for accidents with vehicles transporting hazardous materials in the No Project Alternative than in the Plan Alternative. Also, with fewer new roadways constructed, hazardous materials transport would be concentrated on existing routes, and could not be diverted to dedicated lanes.

The Plan impacts would be greater than the No Project impacts for Impacts 3.7-1, 3.7-2, 3.7-3, and 3.7-4.

Cumulative Impacts

With the construction of fewer new lane miles and other transportation projects in the No Project Alternative compared to the Plan, more transportation demand would be transferred to surrounding counties, and therefore, more hazardous materials transportation would be facilitated in these counties. Thus, the No Project impacts would be greater than the Plan impacts for Cumulative Impact 3.7-5. The Plan Alternative assumes the use of urban form strategies that would encourage greater property reuse and more infill development than under the No Project Alternative. Thus, it is more likely that previously contaminated sites would be encountered under the Plan Alternative than the No Project Alternative.

Therefore, the No Project impacts would be less than the Plan impacts for Cumulative Impact 3.7-6.

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